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ABSTRACT

A small but representative group of 267 children ranging from 6 to 18 years of age participated in a study to determine their perceptions of animals. The group included 63 second, 68 fifth, 67 eighth, and 69 eleventh graders randomly selected from public schools across Connecticut. This study was conducted in conjunction with a national survey of adult perceptions of animals. A major goal of this study was the development of a wide variety of attitude measuring techniques. Personal interviews were used to allow the interviewer to adapt wording, explain concepts, and sustain interest levels according to the needs of individual children. The interviews lasted over one hour and consisted of 110 attitude, knowledge, and behavior questions. The attitude questions were developed around a typology of orientations to animals and preferences for specific kinds of animals. Knowledge of animals was also measured, as was the frequency of participation in observing and other learning activities relating to animals. The most common attitude was a strong emotional affection for individual animals, mainly pets, with a strong humanistic orientation toward animals. Comparison of the results of the children's study with those of the adult study reveal some similarities, as well as many differences, such as the following: the children exhibited more naturalistic tendencies than adults and a more moralistic attitude about hunting animals for reasons other than food. Other comparisons of data reveal significant differences among demographic groups in the survey. The study suggests possibilities for further investigation. (ALL)

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A Provocative Look at Young People's Perceptions of Animals

ED347003

by Miriam O. Westervelt

How do young people relate to animals? Are their likes and dislikes regarding animals different from those of adults? How much is their interest in animals related to how old they are, whether they live in the city or country, or if they are male or female?

The U.S. Fish and Wildlife Service wanted answers to these and other questions regarding public perceptions of wildlife. Recognizing the importance of public opinion in determining the success or failure of its wildlife programs, the service issued a grant to Dr. Stephen Kellert of the Yale School of Forestry and Environmental Studies to conduct a national survey of public attitudes toward wildlife and natural habitat issues.[1] As part of this survey, the service funded a smaller and more exploratory study of "Children's Attitudes, Knowledge, and Behaviors Toward Animals," which Dr. Kellert and I coauthored. The purpose of the study was to learn more about how attitudes toward animals develop and to identify the factors that influence these attitudes while people are young. Clearly, this information would be valuable in designing education programs to reflect the needs and interests of children of different demographic groups.

Unlike the large national survey of adults, the children's study was not concerned with obtaining a nationally representative sample of children. It was considered more cost effective to concentrate on developing valid measuring techniques and to select a small but representative sample of children in Connecticut, rather than assess the attitudes of children from the entire country using the less refined measuring techniques available at the time. Remarkably little research has focused on children's relationships with animals, and it is our hope that the tentative yet highly provocative results reported here will stimulate more thorough investigations on this subject.

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Methodology

A major focus of the children's study was the development of a wide variety of attitude-measuring techniques. Personal interviews were chosen, instead of written or group-administered questionnaires, because they allowed the interviewer to adapt wording, explain concepts, and sustain interest levels according to the needs of individual children. The interviews lasted over one hour and consisted of 110 attitude, knowledge, and behavior questions. Most interviews were conducted at the students' schools during regular school hours. The children were also shown a film depicting a variety of human-animal relationships in hopes of eliciting spontaneous and perhaps more valid expressions of attitudes. This unstructured source of information was very useful in validating the presence or the intensity of an attitude in an individual child when the data were later analyzed.

The attitude questions were developed around "typology" of orientations to animals (see Table 1) reported by Dr. Kellert in 1976.[2] Groups of attitude questions comprised scales on which each child's score could range from 1 (attitude weakly present) to 10 (attitude strongly present). Additionally, preferences for specific kinds of animals were measured using the following methods: a "semantic differential," which rated animals according to bipolar adjectives such as kind/mean, interesting/boring; the question "What is your most favorite animal?"; and thirty-three animal preference items that ranked animals on a scale from "Really Like" to "Really Dislike."

Knowledge of animals was measured in a variety of different ways: true/false and multiple choice questions about behavioral and physical characteristics of animals, identification of animals shown in color slides, and questions on the foods animals eat.

Finally, at the end of the interview, questions were asked about how frequently the child participated in activities such as bird-watching, hunting, zoo visitation, reading books about animals, and learning about animals in school.

TABLE 1

ATTITUDE TYPOLOGY

HUMANISTIC:	Interest and strong affection for individual animals, principally pets.
NATURALISTIC:	Interest and affection for wildlife and the outdoors.
NEGATIVISTIC:	Dislike or fear of animals.
MORALISTIC:	Concern for the right and wrong treatment of animals; strong opposition to exploitation or cruelty toward animals.
UTILITARIAN:	Concern for the practical and material value of animals.
DOMINIONISTIC:	Interest in the mastery and control of animals.
ECOLOGISTIC:	Concern for the environment as a system, for the interrelationships between wildlife species and natural habitats.

Two hundred sixty-seven children from six to eighteen years of age participated in the study. They included 63 second-, 68 fifth-, 67 eighth-, and 69 eleventh-grade students who were randomly selected from public schools across Connecticut. Major demographic groups in the state were represented in the sample.

RESULTS

Attitudes

The most common attitude among the children was a strong emotional affection for individual animals, mainly pets. An

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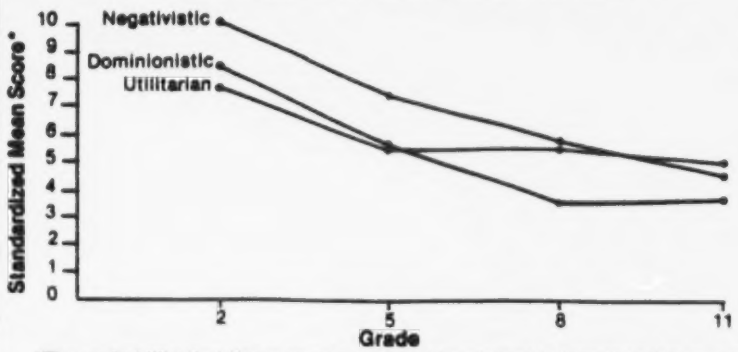
example of this "humanistic" attitude is the finding that "lovable animals" were far more preferred than "beautiful" ones, "animals in the woods," or "useful animals." And 76% of the children disagreed that it's "silly" for people to love animals as much as they love people. This humanistic orientation was also the most common attitude toward animals found among adults in the national survey.[3]

Children and adults were found to be very different from each other in terms of their interest in wildlife and the outdoors, however. This "naturalistic" orientation was the second most common attitude in children, but it was only weakly present in adults.[4] For example, 79% of children, in contrast to 41% of adults, said they would like to go to the jungles of South America to see wild animals. Among the children, naturalistic tendencies were particularly strong in eleventh graders. Only 35% of the eleventh-grade students, compared to 76% of second-grade students, said they liked pets more than wild animals. In addition, 59% of eleventh graders versus only 17% of second graders preferred camping near wildlife rather than near other people.

A general dislike and fear of animals was as common as the naturalistic attitude, suggesting some degree of conflict within and among young people about their feelings for animals. It was interesting to find that children in the lower grade levels were very strongly inclined in this "negativistic" direction, but the attitude began disappearing as the children got older. (See Figure 1.) For example, 64% of second graders and only 11% of eleventh graders said that most wild animals are dangerous. Fifty-two percent of second graders, compared to only 19% of eleventh graders, said that most big dogs are scary. In fact, the second graders not only scored higher than other grade levels on the negativistic attitude scale, they also scored higher than any other demographic group in the entire study. These findings appear to run somewhat contrary to the popular belief that younger children have a natural affinity for animals.

Second graders also scored higher than all the other groups on the "utilitarian" scale, indicating their relatively strong approval of practical and material uses of animals. In contrast, eleventh graders had the lowest utilitarian scores. For example, 51% of the second graders, and only 20% of the eleventh graders, favored drilling for oil in an area where wildlife could be harmed. Regarding foxes that prey on farmers' chickens, 46% of the second graders and only 3% of the eleventh graders approved of killing the foxes.

FIGURE 1 ATTITUDES THAT DECREASE WITH AGE



*The probability that these scores occurred by chance is less than 5% ($p < .05$).

Not surprisingly, second graders had the least developed appreciation for ecological concepts. High "ecologistic" scores were more characteristic of the older children. Seventy-four percent of the children in second grade, in contrast to 25% of those in eleventh grade, felt it would be better if animals ate only plants. Thirty-nine percent of second graders, versus 9% of eleventh graders, said it was wrong for animals to eat other animals. The greatest increase in ecologistic scores occurred between the eighth and eleventh grades.

In their opinions about subordinating and dominating animals, the second-grade students had the highest "dominionistic" scores of all demographic groups in the study. Thirty-seven percent of the second-grade students felt people must sometimes beat a horse or dog hard to make it do what they want, compared to 16% of the eleventh-grade students.

Moral concern for animal rights and cruelty issues was strongest in the oldest children. (See Figure 2.) On some questions, evidence of this "moralistic" attitude was stronger in eleventh graders than in the adults in the national survey. For example, disapproval of sport hunting was expressed by 93% of eleventh graders (and by 84% of all children), compared to 62% of adults. And, many more eleventh graders than adults said the reason for their opposition to sport hunting was that it is "morally wrong." Most children (60%) and adults (85%) approve of hunting for the purpose of obtaining food, however.

Significant differences were also found among the other demographic groups in the survey. Compared with boys, girls were more humanistic, expressing more fear of wild animals, less appreciation for ecological concepts, and less willingness to support activities that dominate animals. Children from urban areas were more likely to express negativistic attitudes than were children from less populated areas. Nonwhites revealed less affection for pets, more fear of wild animals, and a greater willingness than whites to dominate animals, especially for the purpose of material gain.

Animal Preferences

The dog scored highest on both the semantic differential and the thirty-three animal preference scale. It was also named as the favorite animal by the majority of children in the study. The only other domestic animals included in the preference scale, the horse and the cat, ranked just behind the dog. They also followed right behind the dog as children's favorite animals.

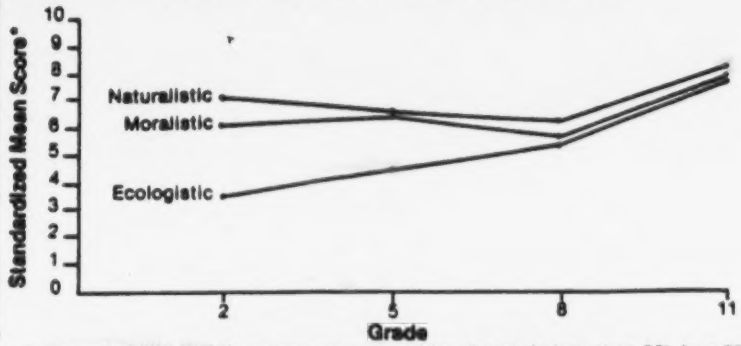
The three most preferred categories of animals were domestic (including pets), soft, and attractive animals. Unattractive, potentially dangerous, and invertebrate animals were the least preferred.

Whereas children's regard for invertebrates decreased with age, preference for predators and larger animals was highest in the oldest children. Among the other demographic groups, males, whites, and rural residents generally liked animals more.

Knowledge

Children's knowledge of animals was quite limited. For example, only half

FIGURE 2 ATTITUDES THAT INCREASE WITH AGE



*The probability that these scores occurred by chance is less than 5% ($p < .05$).

knew the whale is not a fish, 60% realized all birds do not fly south for winter, 52% knew the penguin is a bird, and 21% understood that veal does not come from lambs. But when children's and adults' answers to the same knowledge questions were compared, the children scored higher. They knew more about invertebrates, in particular. For example, 78% of the children (including 86% of eleventh graders), compared to 50% of the adults, knew that spiders do not have ten legs.

Not surprisingly, the older students scored better than the younger ones, with the greatest increase in knowledge of animals occurring between the fifth and eighth grades. Boy, whites, and rural residents had far greater factual knowledge about animals than did other groups of children.

Activities Involving Animals

Most children in the survey said they went to the zoo (93%), had a pet at home (87%), learned about animals in school (83%), fed birds (82%), and read books about animals (76%). An almost equal number of second and fifth graders (about 90%) said they had learned about animals in school in the previous two years, as did an almost equal number of eighth and eleventh graders (about 77%). It was interesting to note the significant drop in this activity between the fifth and eighth grades.

Regardless of grade level, the most typical ways of learning about animals in school were looking at pictures, watching movies, or reading—all relatively passive activities. More direct ways of getting involved with animals in school, such as having a live animal in the classroom, experimenting with animals, or going on trips to see animals, were reported by only 48%, 36%, and 23%, respectively. The younger grades were more likely to go on trips and have live animals in their classrooms, whereas experimenting with animals was more typical of the older children.

Rural children were most inclined toward domestic animal-related activities, as well as hunting, fishing, and trapping. Activities occurring to a greater extent among urban children were going to the zoo and owning a pet bird. White children were more likely than nonwhite children to participate in activities involving animals in general, and females participated more than males in only one activity—bird-watching.

DISCUSSION

It would be unwise to generalize these findings to young people everywhere because of the small sample size and the restricted geographic area they represent. However, it would be equally unwise to dismiss the value of these results because of their tentative nature. The vast differences found between the various groups, and between children and adults, provoke serious thought about how attitudes toward animals develop and how humane education efforts might be geared to the needs of young people representing different demographic characteristics.

Based on the present findings and those of the national survey of adults, it appears that it is time to come to terms with the strong tendency in our society toward emotional attachment for lovable and attractive animals, and the fact that a knowledgeable appreciation for animals as part of a natural system is relatively rare. In order to prepare young people for the serious environmental issues facing them, anthropomorphic orientations to animals will need to be redirected toward an educated concern for the needs of all life forms. Fortunately, the prevalence of the humanistic attitude, along with the stronger naturalistic tendencies of children compared with those of adults, provide a solid springboard for making this jump. For instance, given the fondness a little boy feels for a puppy, we agree we can and should teach him respect for it by indicating that, just like the boy, the puppy needs food, water, and a safe place in which to live. We need to make a commitment to use that respect to form the bridge toward his appreciation for the needs of *people* and animal *species*, such as the bald eagle. Both require a pesticide-free food supply, for example.

The results of this study suggest there may be very different approaches to successfully meet this challenge, depending on the children we are trying to reach. Presented in Table 2 are major characteristics of three different transitional stages discovered in this study. These results are somewhat different from the conclusions of other researchers who emphasize that the period from seventh grade to ninth grade is the most critical developmental period in a child's perceptions of animals and the environment. The present findings indicate the importance of that period but, in addition, reveal important changes happening at other age levels. Children at these different levels relate to animals in very different ways, and attempts to improve their appreciation of animals should seize the unique opportunities offered by each stage. For example, this study suggests that, between the second and fifth grades, when children show an attraction for "cuddly" domestic animals, the focus should be on identifying and dispelling fears about wild animals. Perhaps the time devoted to sharpening reading skills during these years might be well spent with books that point out the similarities between the small and attractive animals children are already attracted to and the other kinds of animals children perceive as fearful. Dispelling fears about animals while increasing knowledge should begin at this early stage and should be reinforced with carefully supervised exposure to wildlife in natural surroundings.

Between fifth and eighth grades, the

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TABLE 2

CHARACTERISTICS OF TRANSITIONAL STAGES

	ALL GRADE LEVELS	2ND TO 5TH GRADES	5TH TO 8TH GRADES	8TH TO 11TH GRADES
ATTITUDES	Humanistic	Negativistic begins to decrease. Utilitarian sharply decreases. Dominionistic begins to decrease.	Negativistic decreases. Dominionistic decreases. Ecologistic increases.	Naturalistic sharply increases. Ecologistic sharply increases. Moralistic sharply increases.
KNOWLEDGE OF ANIMALS	Limited	Very limited	High increase	Overall knowledge levels off. Knowledge of invertebrates increases.
ANIMAL PREFERENCES	Pets, domestic animals	Strong preference for pets, domestic, soft, attractive, small, and invertebrate animals.	Preference for soft, attractive, and small animals decreases.	Preference for predators sharply increases.
ACTIVITIES INVOLVING ANIMALS	Go to the zoo, own a pet, fish, learn about animals in school, feed birds, read books about animals	High participation in learning about animals in school Go on school trips to see animals Reading about animals increases.	Learning about animals in school decreases. Going on school trips to see animals sharply decreases.	Do experiments with animals Rarely go on school trips to see animals

negative feelings about animals and the narrow attraction for only cute animals give way to a need for more factual understandings about animals. One question is, why did the sharp increase in knowledge occur during this age period, when learning about animals in school sharply declined? The possibility that learning about animals was not dependent on school activities is supported by the finding that there was absolutely no difference between the knowledge scores of those who did and those who did not learn about animals in school. It appears, then, that knowledge was sought from and provided by sources outside the school. The thirst for more facts about animals, and the growth of the ecologistic attitude at the same time, suggest that this stage offers an excellent opportunity for fostering a realistic appreciation of the natural world. It is tempting to speculate how much greater the increase in knowledge from fifth to eighth grades would have been had *more* learning about animals been going on in school instead of less. The importance of this stage is further demonstrated by the finding that knowledge did not continue to increase after the eighth grade. Once the teenage years were entered, the effect of age on knowledge of animals became negligible.

The most basic change occurring among the oldest children was a deepening ethical concern for how all animals are treated and an appreciation of wildlife in relation to natural habitat. Sensitivity to the moral and ecological considerations of animal issues, particularly wildlife protection, was acute. Respect for the roles of large predatory animals surpassed the fears in earlier developmental stages. This appears to be the time to discuss the pros and cons of such issues as energy development, habitat protection, hunting, and endangered species protection.

Finally, the present results and similar findings in the national survey suggest several attitudinal and behavioral characteristics of nonwhites and urban residents. Regardless of grade level, programs for these groups of children should work on expanding understanding of the animal world by dispelling fears and providing opportunities for direct exposure to wildlife in natural surroundings. In light of the continuing trend of increasing urbanization, it will become more and more important to concentrate on these groups of children.

The real value of this study lies in the number of possibilities it suggests for further investigation. The techniques used here represent pioneering attempts to understand how attitudes toward animals develop, and they require extensive testing and further refining. Future investigations might also include preschoolers, a larger and random national sample, or a longitudinal research design that would allow close monitoring of individual children during the formative years.▽

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4 Ibid.

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